



NETWORKS FAQ

Q What is ADSL2, and what equipment do I need in order to use it?

A ADSL2 is the new version of ADSL. It works further from the telephone exchange, so people who can't currently get ADSL will have more of a chance of getting connected. It also offers a speed increase of up to 24Mbit/s. But this top speed will be achievable only for people with excellent-quality telephone lines who live very close to the exchange. On average, most people should be able to achieve 8Mbit/s.

ADSL2 services are available, but getting one isn't easy. Your local telephone exchange has to be upgraded to support the new connection speeds. You also need an ADSL2+ modem. These are becoming more common, and the Netgear and US Robotics routers reviewed here have ADSL2+ modems built in.

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▲ Your telephone exchange has to be upgraded before you can get ADSL2

REVIEW WIRELESS ROUTER

US ROBOTICS Wireless MAXg ADSL2+ Gateway



RATING ★★★★★

PRICE £59 inc VAT

SUPPLIER www.pcwb.com

DETAILS www.usrobotics.com



It took a while, but US Robotics has finally released a wireless router with a built-in ADSL2+ modem. This product allows you to use the new high-speed ADSL connections as well as the current speeds.

The Gateway uses US Robotics' MAXg technology. Unlike MIMO products, MAXg conforms to the current 802.11g specification, so you won't have any trouble using it with similarly specified wireless adaptors.

Despite the constraints of having to work within these boundaries, US Robotics has configured its router so that it's more intelligent in the way it sends data. Techniques such as frame bursting should help provide quicker wireless access at greater range.

Testing using our Centrino notebook gave us 19.22Mbit/s at close range and 17.94Mbit/s at 10m. We were unable to get a connection 20m away. This compares favourably with Netgear's RangeMax router, which is reviewed opposite.

Greater performance was achieved using the MAXg wireless PC Card adaptor. We got a stunning 29.21Mbit/s at close range and 24.58Mbit/s at 10m, which is much better than the RangeMax. While we were able to get a connection at 20m through two walls and some lifts, it was too slow for any real use. This indicates that you might be better off with a different router if you have trouble with wireless in your house; if you don't, this router will produce good results.

The user interface has had a slight overhaul and the setup wizard that appears when you first connect to the router's web-based management helps you configure your settings quickly. After you've entered your username and password, the router gets you to configure wireless settings including turning on encryption; we recommend that you use WPA-PSK.

The router's firewall is turned on by default to allow all outgoing traffic but block incoming traffic. This should suffice for most people, but you can add extra rules if you find that some applications such as online games don't work properly.

Excellent close- and mid-range performance using US Robotics' and third-party wireless adaptors make this a very attractive router. If you have ADSL, it's an excellent choice. But those who struggle with wireless may want to opt for Netgear's RangeMax, which is stronger at long range.

David Ludlow

✓ Fast wireless; works well with standard wireless clients

✗ Range not as good as MIMO routers

SPECIFICATIONS 802.11g (125Mbit/s turbo mode) wireless router, ADSL2+ modem, four Ethernet ports. **Part code** USR019108

HOTLIST WIRELESS ROUTER

BUFFALO AirStation G54 High Power



RATING ★★★★★

PRICE £44 inc VAT

SUPPLIER <http://uk.insight.com>

DETAILS www.inmac.co.uk

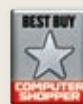
Buffalo's High Power router uses brute force signal strength to give the fastest and longest wireless transmission we've seen. The router provides a speed boost to all devices on the network. The management interface is one of the easiest we've used, and the router is very well priced. An excellent choice.



SPECIFICATIONS 802.11g wireless router (125Mbit/s turbo mode), four-port Ethernet switch, ADOSS. **Part code** WHR-HP-G54

HOTLIST NETWORK-ATTACHED STORAGE

BUFFALO Terastation 1TB



RATING ★★★★★

PRICE £485 inc VAT

SUPPLIER www.shophagenta.com

DETAILS www.morecomputers.co.uk

If your hard disk is already full of digital photographs and music files, Buffalo's 1TB Terastation is ideal, providing an excellent way to boost storage on a network. This device has four 250GB hard disks. You can also use RAID to protect your valuable data. The system is easy to set up and, considering the price of the individual components, it's great value.



SPECIFICATIONS 1TB storage (four 250GB hard disks), Gigabit Ethernet, four USB2 ports. **Part code** HD-H1.OTGLR5

HOTLIST VOIP PACKAGE

FREETALK Freetalk



RATING ★★★★★

PRICE £80 inc VAT per year or £6.99 inc VAT per month

SUPPLIER Freetalk 08712 182180

DETAILS www.freetalk.co.uk

Voice over IP (VoIP) technology is an excellent way of getting cheap or free phone calls. Freetalk is the latest vendor to offer the service, which is operated by the people responsible for Dixons and PC World. The cost of the service gets you a router with the voice service enabled. Calls are competitively priced (see the website for further details) and the quality is excellent. It's a great value option.



SPECIFICATIONS VoIP package with router (two Ethernet ports, one phone port); landline calls free, mobile 5p to 15p/min, Freetalk-to-Freetalk calls free. Requires a broadband internet connection


REVIEW WIRELESS NETWORK ADAPTOR

HAWKING

USB Wireless Dish Adaptor

RATING ★★★★★

PRICE £50 inc VAT

SUPPLIER www.maplin.co.uk

DETAILS www.hawkingeurope.com


Poor wireless reception is a frustrating problem. If it's just one PC that's having trouble, you need to address that computer rather than the entire network, which is where Hawking's USB Wireless Dish Adaptor can help.

This adaptor looks like the type of gadget that every 1960s Bond villain would need to take over the world. While wireless adaptors are never going to be attractive, this is the by far the best-looking one we've seen. It works like a satellite dish, so the dish catches the wireless signal and improves reception. This WiFi adaptor has an 8dBi antenna, whereas the average adaptor ships with a 2dBi connector. It's a directional antenna, which means you have to point it towards your wireless router, amplifying that signal alone. The Wireless Dish has a row of LEDs on the front to show signal quality, so adjusting it for the best signal is easy.

Hawking provides the adaptor with its own client software, which has a signal strength meter. In practice, this is no easier or better than the Windows Wireless Zero Configuration utilities that is built into all versions of Windows XP with Service Pack 2.

In our tests, using a standard 54Mbit/s 802.11g wireless router, we measured throughput at 15.54Mbit/s at close range and 14.32Mbit/s at 10m. These figures are in line with what our Centrino notebook achieved. At 20m, where the notebook failed to work, we recorded throughput of 10.91Mbit/s, which is amazing. This adaptor will work well in houses where wireless reception is poor.

The Wireless Dish Adaptor is great value and provides excellent throughput. If you suffer from poor wireless reception and want a USB adaptor, it is ideal. But if you have a wireless PC Card, replacing its aerial with Hawking's 7dBi Directional Antenna (£35 including VAT from www.morecomputers.co.uk) will do the same job for a slightly lower price.

David Ludlow

✓ Excellent performance; looks great

✗ Large

SPECIFICATIONS 802.11g (54Mbit/s) wireless adaptor, USB Hi-Speed interface. **Part code** HWU8DD



www.computershopper.co.uk

REVIEW WIRELESS ROUTER

NETGEAR

RangeMax ADSL Modem Wireless Router

RATING ★★★★★

PRICE £93 inc VAT

SUPPLIER www.savastore.com

DETAILS www.netgear.co.uk

Netgear's RangeMax ADSL Modem Wireless Router uses MIMO technology for extended range and performance. Most MIMO routers have at least three prominently displayed aerials; Netgear has built an array of seven aerials into the router's slim white casing. Technically, it's not true MIMO, as the aerials aren't used together; the aerial with the strongest reception is used.

We were worried the lack of visible aerials would adversely affect performance, but this wasn't the case. Using our Centrino notebook, we got throughputs of 18.65Mbit/s at close range and 18.24Mbit/s at 10m. We were unable to get a stable connection 20m away through two walls and some lifts, though. These throughputs are slightly off the pace of Buffalo's High Power router (see Hotlist below left), which let us get a connection of 2.44Mbit/s (good enough for web browsing) using a Centrino notebook.

MIMO technology is best when used with matching network adaptors; we also tested using Netgear's RangeMax Wireless PC Card (£46 including VAT), which supports the router's 108Mbit/s mode. Throughputs were better, with 21.51Mbit/s at close range, 20.63Mbit/s at 10m and 9.44Mbit/s at 20m. Using this router with its own network adaptors will help if you live somewhere with poor wireless reception.

The quick setup wizard is probably all you'll need for configuration; it configures your internet connection and prompts you for wireless settings including WPA security. If you have to change the more complex settings, Netgear's excellent web interface is a joy to use. Each page has a sidebar containing help for its settings. The router has an internal ADSL2+ modem built in, so it will work with the new higher-speed ADSL connections.

We were pleased with the results from this router. But the true MIMO standard is only due to launch next year. Unless you have wireless problems in the home, the MAXg ADSL2+ router (reviewed left) is a better choice.

David Ludlow

✓ Strong performance from all wireless adaptors; excellent management

✗ MIMO is not a standard; expensive

SPECIFICATIONS 802.11g (108Mbit/s turbo mode) MIMO wireless router, ADSL2+ modem, four Ethernet ports. **Part code** DG834PN


REVIEW WIRELESS ROUTER

LINKSYS

Compact Wireless G Broadband router

RATING ★★★

PRICE £37 inc VAT

SUPPLIER www.pixmania-pro.co.uk

DETAILS www.linksys.co.uk

As with Apple's AirPort, Linksys' Compact Wireless G Broadband router can be packed up, slipped into a bag and carried around. It will appeal to anyone who's into network gaming or spends a lot of time using internet access in hotel rooms.

While the AirPort comes with only a solitary network port, the Compact Wireless G router has four network ports for PCs and one to connect to the internet connection. There's no external aerial on this router, so we weren't expecting the best performance. Still, using our Centrino notebook, throughput of 13.75Mbit/s at close range and 11.04Mbit/s at 10m is good and not far behind that of our standard 802.11g wireless router, which has an external aerial. We couldn't get a connection at 20m, but few products can. There's no turbo mode, so you won't see any speed or range improvement by switching to Linksys' network adaptors.

Concealed under a flap is an external aerial connector, so you can connect an external aerial, such as Hawking's OmniDirection 7dBi aerial (reviewed in *What's New, Shopper* November 2005), to increase range and performance.

Configuration of the router is simple; the setup wizard on the CD takes you through everything, including wireless security settings. However, it won't let you continue until it has detected an internet connection. This means you can't use the wizard if you just want to use the router as a way of sharing files between connected PCs. In this case, you have to bypass the CD's wizard and connect directly to the web-based management. It's well laid out and you shouldn't have trouble with the basic settings. There's a range of more complex settings, too, which you will need only if you're having trouble with applications such as games.

For this price, the router is ideal for homes where you don't need much range on your wireless or you want a router you can transport. Otherwise, we'd rather spend a bit more for a faster product, such as the hotlisted Buffalo High Power router.

David Ludlow

✓ Small; excellent value

✗ Average throughput and range

SPECIFICATIONS 802.11g (54Mbit/s) wireless router, WAN port, four Ethernet ports. **Part code** WRT54GC-UK

